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10/684,096	10/10/2003	Chun-Chu Uang	67,200-1080	3024

7590 06/24/2005

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EXAMINER	
D AGOSTA, STEPHEN M	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/684,096	UANG ET AL.	
	Examiner	Art Unit	
	Stephen M. D'Agosta	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 10 October 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 7-8 objected to because of the following informalities:

a. The claims should not cite vendor-specific hardware, but rather generic descriptions.

b. Does the applicant have approval from Ericsson and Siemens to write claims that list their hardware?

c. Lastly, it is inappropriate to have the scope of a claim change with time. Since vendor hardware can change, any claim containing "Ericsson RBS 2205 type" or "Siemens Hicom 300 family" can therefore change and thus vary in scope over time. The other aspect arising from this is enablement. If the vendor hardware changes, the disclosure may no longer support the limitation.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding **claims 7 and 8**, the phrases " Ericsson RBS 2205 type" and "Siemens Hicom 300 family" render the claims indefinite because it is unclear whether the terms "type" and "family" can be determined as part of the claimed invention. See MPEP § 2173.05(d). The scope cannot be determined since these claims recite broad limitations that are open to interpretation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-11, 13-17 and 19-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Cyr US 6,223,055 and further in view of Speasl et al. US 5,815,114 and Wilson et al. US 6,317,089.

As per **claims 1,9 and 16,** Cyr teaches a business telecommunication system capable of connecting wireless mobile stations and wired stations located at a plant/building (abstract and C1, L10-50), the system comprising:

a base station to which said wireless mobile stations are connected, said base station being installed at said plant/building (figure 1, shows a wireless base station in the building, #130)),

a private branch exchange to which said wired stations are connected, said private branch exchange being installed at said plant/building (figure 1, #140 shows a PBX connecting to wired phones)

at least two dedicated lines, at least one line of said at least two dedicated lines connecting said base station with a public switched telephone network, another at least one line of said at least two dedicated lines connecting said public switched telephone network with said private branch exchange (figure 1 shows BTS #130 with link to public cellular network. Also see C3, L19-42:

"In addition to the wireless base station 130, the in-building communications system 110 includes a private branch exchange ("PBX") 140 that is couplable to the wireless base station 130, and a plurality of wired extensions, generally designated 150, coupled to the PBX 140. The PBX 140 is also coupled to the PSTN 101 whereby communications may be routed between the in-building communications system 110 and the public communications system 100; e.g., voice calls can be routed

between a wireless terminal 120 and a wired extension 150 via the public wireless network 102, PSTN 101 and PBX 140"),

a plurality of antennas associated with said base station to connect said wireless mobile stations to said base station (figure 1 shows a BTS #130 which inherently comprises multiple antennas, also see C6, L45-59), and

but is silent on whereby a multipath can be eliminated, and reliable communication can be attained in circumstances of shielded areas at the plant.

The primary examiner notes that cellular communications operate better in outdoor environments versus indoor environments due to the fact that buildings/structures attenuate the mobile's ability to transmit/receive. Hence a plant or office building can be interpreted as a "shielded" environment (as compared to outdoors) and one skilled would place Base Stations indoors to provide better communications. Taking this concept one step further, the primary examiner notes that a building with an indoor shielded room/enclosure would parallel the indoor/outdoor comparison just discussed, ie. indoor is to outdoor as building is to shielded room. Simply put, the phone will operate better outdoors than indoors, and if indoors, the phone will operate better in the building rather than in the shielded room within said building. Hence one skilled would place a Base Station inside a shielded room to provide optimal communications in that shielded environment. Lastly, Cyr states that public coverage is expanding to many different places (C1, L34-44), all of which are buildings and can shield RF transmissions.

To support the primary examiner's assertion above, he puts forth **Speasl** who teaches RF communications with a device in a building and/or shielded room:

This invention relates in general to positioning or location systems and, in particular, to such a system as utilized to locate objects within an interior space or shielded environment. More specifically, but without restriction to the particular embodiments hereinafter described in accordance with the current best mode of practice, this invention relates to a location positioning system for use in a shielded environment that utilizes GPS-type signals. **(figures 2-3 and C1, L5-13).**

According to one aspect of this invention, the GPS-type signals are transmitted into the shielded environment to be

received by a receiver device located therein. The receiver device is capable of transmitting a location signal. In one particular implementation of this invention, there is further provided a computer and a location receiver associated therewith. The location receiver is positioned within the shielded environment to receive the location signal from the receiver device so that a precise position of the location receiver may be determined by the computer by processing the location signal. According to a specific use of this invention, the location device includes a cellular phone or alternatively a badge capable of being attached to a person moving within the shielded environment. **(C3, L33 to C4, L45 teach various embodiments).**

Further to this point, **Wilson** teaches means for connecting a mobile device inside a "shielded environment" to an antenna outside said shielded environment via a wired interface (Abstract, figures 1-2 and C2, L36-62 teaches a user in a shielded environment such as a car and/or stationary building with metal in their walls, which reads on the claim).

With further regard to claim 9, Cyr teaches (C2, L9-14) connections between wired/wireless devices by only dialing the extension number of the other phone, which reads on the claim). While Cyr **is silent** on the shielded area being a clean room at a semiconductor plant, Speasl and Wilson's teachings disclose means for providing communications in any shielded area (which reads on a clean room).

With further regard to claim 16, Cyr teaches low power antennas (C6, L40 to C7, L12).

It would have been obvious to one skilled in the art at the time of the invention to modify Cyr, such that multipath can be eliminated, and reliable communication can be attained in circumstances of shielded areas at the plant, to provide means for operating a wireless device if/when a user roams into a shielded environment.

As per **claim 2,** Cyr teaches 2. The system as claimed in claim 1, further comprising software means for creating a unique full network number for any of said wireless mobile and wired stations, whereby a connection between said wireless mobile stations and between one of said wireless mobile station and one of said wired stations,

no matter whether said wireless mobile stations are at the plant at the moment of establishing the connection, can be set up by using their abbreviated intra-plant numbers (C2, L9-14 teaches connections between wired/wireless devices by only dialing the extension number of the other phone, which reads on the claim).

As per **claims 3, 10 and 17,** Cyr teaches claim 2/9/16, wherein said software means are incorporated in said base station and said private branch exchange (C2, L9-14 discloses the PBX comprises dialing software to route calls AND see C1, L52-65 which refers to both the PBX and BTS operating together to support "call routing operations" and requires software at both PBX and BTS - which reads on the claim).

As per **claims 4 and 11,** Cyr teaches claim 1/9, wherein said antennas are low power antennas (C6, L40 to C7, L12 teaches low power antenna systems).

As per **claims 6 and 13,** Cyr teaches claim 1/9 **but is silent on** wherein said base station is a Global System Mobile base station.

Cyr does teach support to PCS (C1, L12-22), Digital Amps and CDMA (C7, L32-45). Hence the primary examiner interprets Cyr as supporting GSM too since he does allow for modifications within the spirit and scope of his invention (C9, L21-26).

It would have been obvious to one skilled in the art at the time of the invention to modify Cyr, such that the BTS is GSM, to provide support to all the industry standard cellular/wireless communications standards available today.

As per **claims 7, 14 and 19,** Cyr teaches claim 6/13/16 **but is silent on** wherein said base station is of Ericsson RBS 2205 type.

The primary examiner takes Official Notice that it is well known in the art that Ericsson builds/sells cellular communications systems/hardware. Hence Cyr's teachings and design would operate with Ericsson hardware.

It would have been obvious to one skilled in the art at the time of the invention to modify Cyr, such that said base station is of Ericsson RBS 2205 type, to provide support for industry standard vendor hardware that is prevalent in the network today.

As per **claims 8, 15 and 20,** Cyr teaches claim 1/9/16, **but is silent on** wherein said private branch exchange is of a Siemens Hicom 300 family.

The primary examiner takes Official Notice that it is well known in the art that Siemens builds/sells telecommunication systems/hardware. Hence Cyr's teachings and design would operate with Siemens hardware.

It would have been obvious to one skilled in the art at the time of the invention to modify Cyr, such that said private branch exchange is of a Siemens Hicom 300 family, to provide support for industry standard vendor hardware that is prevalent in the network today.

Claims 5, 12 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Cyr/Speasl/Wilson, and further in view of Kay et al. US 5,633,873.

As per **claims 5, 12 and 18,** Cyr teaches claim 1/9/16 **but is silent on** wherein said at least two dedicated lines are of E-1 type.

The primary examiner notes that communication links between buildings/offices and the PSTN are typically implemented using T1 and/or T1/E1 links. These provide high-bandwidth links while keeping costs low (eg. when compared to leasing twenty four separate DS-0 links).

Kay teaches "Referring to FIG. 10 an alternate interface configuration of FIGS. 2 and 3 is the PBX connection, which affects the subscriber interface portion 36 of the embodiments of FIGS. 2 and 3 in a similar manner. Referring to configurations 90 and 92 PBX 94 performs local call routing and handles any special services required by the local subscribers. In the configuration 90, the PBX provides four wire interface circuits to the MSU. **In the configuration 94, a T1 or E1 interface is provided depending on the type of PBX used**. The MSU serving the four wire interface is identical to FIGS. 2 and 3 except for the four wire rather than two wire interface. This is

true for both voice and data applications. As previously mentioned, the MSU can provide either dedicated data channels in which case the PBX must route data applications to those channels, or combined voice/data interfaces in which case the routing is not needed. **For the T1/E1 PBX interface 92**, the PBX will interface to the MSU's internal PCM bus via an electrical level and format conversion circuit." (C9, L40-60)

It would have been obvious to one skilled in the art at the time of the invention to modify Cyr, such that said at least two dedicated lines are of E-1 type, to provide means for connecting between the private and public communications systems via high-speed links.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. DeSantis et al. US 6,351,463
2. Reudink et al. US 6,405,018
3. Chow et al. US 6,535,730
4. Haartsen US 6,112,088
5. Jackson et al. US 6,023,621
6. Chavez US 6,070,071
7. Hightower et al. US 5,276,277
8. Chow et al. US 6,642,504
9. Brown US 2002/0097806
10. Rappaport et al. US 2002/0006799
11. Duplessis et al. US 6,370,356
12. Vannucci US 5,459,727
13. Weissman US 6,449,477
14. Lee US 5,349,631

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta
Primary Examiner
6-27-2005